TITLE

PROCESS FOR MAKING 5-CYANOVALERIC ACID, ADIPIC ACID OR DIMETHYL ADIPATE

ABSTRACT

Disclosed in a process for making (1) a compound of the formula $NC-CH_2-CH_2-CH_2-CO_2R'$, wherein R' is H or C_1 to C_{12} alkyl, or (2) adipic acid or (3) dimethyl adipate, using as the substrate, 3-pentenenitrile, (2) 3-pentenoic acid or methyl 3-pentenoate, respectively, by contacting the substrate with carbon monoxide and a nucleophile in the presence of a Group VIII metal, a selected ligand, and an acid promoter. The nucleophile, which (a) an alcohol or water, or (b) water or (c) methanol, respectively, in the presence of a Group VIII metal, preferably palladium, a selected phosphine ligand, and an acid promoter.